

What is claimed is:

1. An apparatus for removal and disposal of materials comprising:

5 a wheel assembly having a rim and an axle connected together with spokes radially projecting from the axle, the axle including a fulcrum member capable of transmitting a recoil reaction to an action;

10 a driving member having an upper portion, a middle portion and a lower portion, wherein the middle portion is attached to the fulcrum member of the axle;

15 a handle attached to the upper portion of the driving member and capable of moving the wheel assembly; and

20 a blade attached to the lower portion of the driving member, the blade adapted to pick up a load of material from a surface when the blade is lowered to the surface by raising the handle and pushing forward;

25 wherein the blade springs upwards and forwards, thereby releasing the load of material briskly away from the apparatus when the handle is pushed downwards to cause the wheel to compress and recoil through the fulcrum member at the axle of the wheel.
2. The apparatus according to claim 1, wherein the axle comprises a tubular body having first and second ends which support spokes connecting the axle to the rim, the tubular body forming the fulcrum member.
3. The apparatus according to claim 1, wherein the wheel assembly has a quick release for disconnecting the wheel assembly from the driving member;
4. The apparatus according to claim 1, wherein the rim of the wheel assembly is adapted to receive an elastic member, including a bicycle tire.
- 25 5. The apparatus according to claim 4, wherein the middle portion is generally S-shaped.
6. The apparatus according to claim 1, wherein the blade has two sidewalls and a back wall to keep the load of material from spilling out from the blade.
7. The apparatus according to claim 1, wherein the blade is shaped in the form of a scoop having a radius at the bottom.

8. The apparatus according to claim 1, wherein the driving member comprises a tubular material.

9. The apparatus according to claim 8, wherein the tubular material comprises metal.

5 10. The apparatus according to claim 8, wherein the tubular material comprises plastic.

11. The apparatus according to claim 1, wherein the handle is slidably adjustable through a telescoping tubular material inside a hollow tubular driving member.

10 12. The apparatus according to claim 1, wherein the overall length of the apparatus is between about 78 to 88 inches, and can be increased to between about 89 to 100 inches.

13. The apparatus according to claim 1, wherein the diameter of the wheel is between about 30 to 36 inches.

15 14. The apparatus according to claim 1, wherein the height of the handle from a datum plane directly under the wheel is between about 48 to 60 inches, and can be increased to between about 42 to 66 inches.

15. The apparatus according to claim 1, wherein the load of material comprises sand and gravel.

20 16. The apparatus according to claim 1, wherein the load of material comprises snow and slush.

17. An apparatus for removal and disposal of materials comprising:

a wheel assembly having a rim and a axle, the axle further comprising a tubular body having two ends adapted to receive spokes which connect the axle to the rim;

25 the axle further adapted to receive a plurality of springs at the two respective ends of the axle to act as a fulcrum and transmit a recoil reaction to an action applied at the axle;

30 an elongate U-shaped driving member having a curved upper portion, a generally straight middle portion and an open lower portion, wherein the middle portion is attached to the springs at each end of the axle;

a handle formed from the upper portion of the driving member, the handle capable of moving the wheel assembly; and

a shovel blade attached to the lower portion of the driving member, the shovel blade adapted to pick up material from a surface when the blade is lowered to the surface by raising the handle and pushing forward;

5 wherein the blade springs upwards and forwards, thereby releasing the material briskly away from the apparatus when the handle is pushed downwards to cause the springs to compress and recoil through the fulcrum member at the axle of the wheel.

18. The apparatus according to claim 17, wherein the axle comprises a tubular body having first and second ends which support spokes connecting the axle to the rim, the tubular body forming the fulcrum member.

19. The apparatus according to claim 17, wherein the plurality of springs comprise a pair of springs, one spring at each end of the two ends of the axle.

20. The apparatus according to claim 17, wherein the pair of springs is compressed when the handle is pushed downwards, the compression providing the recoil action.

21. The apparatus according to claim 17, wherein the blade has two sidewalls and a back wall to keep the load of material from spilling out from the blade.

22. The apparatus according to claim 17, wherein the blade is shaped in the form of a scoop having a radius at the bottom.

23. The apparatus according to claim 17, wherein the driving member comprises a tubular material.

24. The apparatus according to claim 23, wherein the tubular material comprises metal.

25. The apparatus according to claim 17, wherein the handle is slidably adjustable through a telescoping tubular material inside a hollow tubular driving member.

26. The apparatus according to claim 17, wherein the overall length of the apparatus is between about 78 to 88 inches, and can be increased to between about 89 to 100 inches..

27. The apparatus according to claim 17, wherein the diameter of the wheel is between about 30 to 36 inches.

28. The apparatus according to claim 17, wherein the height of the handle from a datum plane directly under the wheel is between about 48 to 60 inches, and can be increased to between about 42 to 66 inches..

29. The apparatus according to claim 17, wherein the load of material comprises sand and gravel.

30. The apparatus according to claim 17, wherein the load of material comprises snow and slush.

5 **31.** A method of snow removal, comprising the steps of:

providing an apparatus comprising a relatively large wheel substantially at the waist level of an operator, a U-shaped yoke having a handle at the closed end, a shovel blade at the open end of the U-shape, wherein the yoke is mounted onto an axle of the wheel;

10 moving the apparatus along a path by pushing the handle and rolling the wheel in a direction commanded by the handle;

shoving onto the blade a load of material lying along the path of the apparatus;

15 pressing the handle downwards, after picking up the load of material, to lift the shovel blade to a level that clears the path;

adjusting further the level of the shovel blade to achieve a balanced load with respect to and over the axle of the wheel;

transporting the balanced load of material to a destination; and at destination

20 briskly applying body weight at the handle to propel the load of material to a substantial distance away from the apparatus.

32. The apparatus according to claim 31, wherein the diameter of the wheel is between about 30 to 36 inches.

25 **33.** The apparatus according to claim 31 wherein the overall length of the apparatus is between about 78 to 88 inches, and can be increased to between about 89 to 100 inches.

34. The apparatus according to claim 31, wherein the height of the handle from a datum plane directly under the wheel is between about 48 to 60 inches, and can be increased to between about 42 to 66 inches.

30 **35.** The apparatus according to claim 31, wherein the load of material comprises sand and gravel.

- 36.** The apparatus according to claim 31, wherein the load of material comprises snow and slush.
- 37.** The apparatus according to claim 31, wherein the axle is adapted to receive a plurality of springs at the two respective ends of the axle to act as a fulcrum and transmit a recoil reaction to an action applied at the axle.
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- 38.** The apparatus according to claim 31, wherein the wheel is adapted to receive an elastic material capable of producing a recoil action to an action applied at the axle.
- 39.** The apparatus according to claim 31, wherein the body weight is applied at the waist level of the operator.
- 10 40.** The apparatus according to claim 31, wherein the load is propelled to the side of the shovel blade.
- 41.** The apparatus according to claim 31, wherein the load is propelled in a straight-out departure path from the shovel blade.